Volume II—No. 6 MONTANA FISH AND GAME DEPARTMENT June, 1967

EARLY TEAL SEASON IN MONTANA

For the second consecutive year, hunters are invited to take part in an early teal hunting season in the Central Flyway portion of Montana. This is the third year that an experimental early teal season has been held in the Central and Mississippi flyways, but Montana didn't take part during the first year.

Federal and state game management agencies are looking forward to a better turnout in 1967 now that hunters have had a chance to get the teal fever. Last year, less than 600 Montana scattergunners held one of the special free permits. About 40 percent of the permit holders hunted, at least once, and averaged about two teal per hunter.

Last Year's Results

Although the experimental season was established primarily to harvest blue-winged teal, green-winged and cinnamon teal are legal game too during the early autumn hunt. The species taken by Montana hunters during the last special season was composed of 56 percent blue-wings, 42 percent green-wings, and two percent other. The two percent other can be attributed to some hunters not knowing their birds. Last year the season in Montana was set to coincide with the prairie grouse season and may have been too late to catch the peak of blue-wing migration. This could account for the high percentage of green-wings in the bag. This year's season will be about two weeks earlier, and should dovetail better with blue wing migration.

How To Apply

Hunters who want to get in on some early duck hunting this fall can get a free permit to take part in the teal season by applying to the Fish and Game Department, Helena, Montana. Applications must include name, address, county of residence, and zip code. Deadline for applications will be Aug. 10, 1967.

All hunters 12 years old or older (excepting residents 65 years or older) must have a Montana bird hunting license in order to hunt waterfowl. In addition to the Montana bird hunting license, persons over 16 must have a federal migratory waterfowl stamp.

Dates—Limits

The Fish and Game Commission has applied for hunting dates from Sept. 2 through Sept. 10 inclusive. Daily limits will be four teal and the possession limit will be eight teal after opening day. Colored pictures with tips on how to identify the teal will be sent to all who apply for permits, and to anyone else who is interested.

No Easy Target

The swift flying little ducks appear to most hunters as feathered missiles, and it's an exceptional hunter who can consistently drop

a winging teal. The blue-wings are early migrants. They start leaving Montana late in August, and by early October most of them have moved completely out of the U.S. Because of this early migration habit, these birds have not been subjected to much hunting when the earliest of regular waterfowl seasons start in October.

The blue-winged teal winter in South America and have a rather long and hazardous route during both their fall and spring migrations. Many banded in Montana have been recovered in the Dominican Republic, Cuba, and the northern part of South America.

Objectives of Early Season

The main objective of the special season is to determine if blue-winged teal can offer more recreational hunting than in past years. They are good producers when water and weather conditions are right. As noted, they migrate early in the fall and haven't had much hunting pressure, particularly in years with late waterfowl seasons.

Since a relatively small portion of the blue-winged teal population is taken by hunters, the natural mortality of these birds is quite high, judging from annual counts made by the Fish and Wildlife Service. It is hoped that the special seasons will show if a greater kill by hunters will take birds that would die anyway, or whether it would add to the overall mortality rate, and if so, how much.

Follow-up Will Be Made

State and federal agencies will be looking for other information also. It is suspected that adult male blue-wings may migrate at different times than do adult females and juveniles. Thus, a special teal season in September may harvest one age and/or sex group more than another. The kill of green-winged and cinnamon teal is expected to be smaller because green-wings are later migrants and cinnamon are uncommon in the Central and Mississippi flyways.

Efforts will also be made to find out how well hunters can distinguish teal from other waterfowl. The species limitation will be enforced, so it would be advantageous for hunters to pick up a waterfowl identification book prior to the season and test their abilities in the field at picking out these ducks as they are flushed or as they fly by.

The Fish and Wildlife Service will conduct two special surveys during the season, requesting help from hunters selected at random. A wing collection survey will provide information on species, age, and sex of the birds bagged. A mail questionnaire survey will help answer such questions as hunter effort and total harvest by time periods.

Hell Creek is one of the three state parks on Fort Peck Reservoir. The rugged "Breaks" add endless variety to the shoreline of the mighty reservoir.

HELL CREEK STATE PARK

By ASHLEY ROBERTS

Hell Creek State Park is located on the south shore of Fort Peck Reservoir some twenty-six miles north of Jordan. The park is located near a well protected bay and provides access to the reservoir as well as fishing and water sports in the bay itself. This is one of the three state parks located on Fort Peck Reservoir administered by the Recreation and Parks Division, State Fish and Game Department, by agreement with the Corps of Engineers.

The general area lying to the south of Hell Creek State Park is one of the finest archaeological exploration areas in the world. Remains of prehistoric animals have been found as well as other historical and significant artifacts of the past. A number of colleges and universities have had exploration teams working in the area at different times. The Visitors Center at Fort Peck Dam has an interesting display of samples of the items found in the area.

The access road from Jordan to the park has been a problem over the years. It is constructed over rough terrain and is unimproved except for the last six miles. The result is that the park gets "fair weather" use for the most part and if it looks like rain, you had better get out of the area as rapidly as possible. Improvements are slowly being made, however, and within the next two or three years the road should be improved and graveled. These improvements are being made through the cooperation of the Corps of Engineers, the U.S. Fish and Wildlife Service, the Bureau of Land Management and the State Fish and Game Department.

MONTANA OUTDOORS

Published monthly by the Montana Fish and Game Dept., Mitchell Building, 125 Roberts Street, Helena, Montana 59601

Second-class postage rates paid at Helena, Montana 59601

Edited by VERNON CRAIG

The road to the park does go through some spectacular badlands country and the scenery is quite awesome. At sunrise or sunset, when the long shadows are on the ground the scene is particularly spectacular.

Facilities at Hell Creek State Park include picnic tables, fireplaces, sanitary facilities, water, a boat launching ramp and an enclosed shelter building. These facilities were constructed by the Corps of Engnieers when Hell Creek State Park was first developed. Some new latrines, picnic tables and interior road improvements will be undertaken and completed during the summer of 1967.

The public use of Hell Creek State Park will increase as the access road situation improves. It provides access to Fort Peck Reservoir and serves a large area of eastern Montana as well as providing an interesting experience to the visitor from out of state.

Pictured from left to right are: Dennis Lewis, Dave Andre, Bill Lear and Jim Meyer. The boys are shown with some of the metal camp stoves which they and other class members constructed.

FAIRFIELD YOUNGSTERS MAKE CAMP STOVES

Montana fishermen, campers and picnickers can thank a number of Fairfield youngsters for several of the outdoor camp stoves they'll find around Montana this summer. Junior and senior welding classes at the Fairfield high school completed about 25 of these camp stoves from materials supplied by the Fish and Game Department. The handy metal stoves will be installed at various fishing access sites in the state.

Yellowstone Float Trip Scheduled

The Jaycee's and Mayor's annual float trip on the Yellowstone River has been scheduled for July 6-9 this year. This trip downriver from Livingston to Billings is sponsored as a public project by cities along the floating route.

There is no fee charged and everyone is invited to join the fun.

Meals are provided by service clubs along the route and the cost is about $1.00 to $1.25 per person per meal. Floaters may fix their own meals if they wish.

A free transportation service is provided at the overnight camps to transport people from the boat landings to the business districts in towns. A van is provided for free hauling of baggage and sleeping gear between encampments.

For further information, write Box 357, Livingston, Montana.

During Montana's youthful days, river boats were an important means of transportation. The mouth of the Bighorn River was considered the head of navigation on the Yellowstone, though the steamer "Josephine" made it as far as Billings in 1875.

SALMON FLY

By GEORGE HOLTON

This is the season when fishermen ask, "How's the salmon fly hatch coming?" And coming it is, for the hatch or transformation of nymphs (immature stage) into adults starts during June—early or late, depending upon the season and locality. Hatches usually begin in the lower reaches of streams where water temperatures are higher and move upstream as the season progresses. The salmon fly season is fairly well over by mid-July.

When Montanans speak of salmon flies they usually mean the large stonefly with the scientific name **Pteronarcys californica.** This is one of nearly 100 species of stoneflies in Montana. All have nymphs that live in water and adults that live on land.

Adult salmon flies are two inches or longer. Their transparent gray or black wings are folded along the body at rest. Often the body is orange.

Large salmon fly nymphs are known as scratchers or hellgrammites. To be strictly proper, the name hellgrammite should be reserved for the nymph of the dobsonfly. Dobsonflies are in another order of insects. Salmon fly nymphs live for two or three years among the gravel and debris on a stream bottom. Finally, triggered by the proper water temperature, they crawl out of the water onto shore. Their skin splits and the adults emerge leaving the old skins behind. As soon as their wings and body structures dry and harden they are able to fly.

At the time of the hatch great swarms of salmon flies can be seen over the stream and adjacent shores. Fish gorge themselves on nymphs migrating from the stream bottom to dry land and on adults which fall into the water. Fishermen using scratchers, adults or imitations for bait, hit the jackpot.

The adults live only long enough to reproduce. A few weeks at most.

Madison River, Big Hole River, Gallatin River, upper Yellowstone River, Big Blackfoot River and Rock Creek (Granite county) are among Montana's best salmon fly streams.

Near the end of it's cycle, a recently emerged adult waits for its wings to harden. It will live only a short time, but long enough to reproduce.

A marvel of transformation. The stonefly pictured above withdrew from this empty shell which was one time its outer self.

Enforcement . . . NOTES . . .

MODERN ENFORCEMENT REQUIRES COOPERATION

By LEONARD SECOR

Sheriff Gets Poachers

One day this spring, the sheriff of an eastern Montana county was returning to the county seat after investigating a report of vandalism at a ranch. While driving along the county road he noticed a parked car with one occupant, apparently waiting for someone to return to the vehicle. The sheriff stopped and offered to help if assistance was needed. He noted that there were several guns in the car and asked the person what he had been shooting. The sheriff was informed that "they" had been target practicing. He was given consent to look in the trunk and found a mallard duck that had been shot. At this time two other young men arrived at the vehicle. Both had blood on their hands and clothing. The sheriff took the two men and found where they had killed and dressed

The job of a state fish and game warden is not one of enforcement only. It may range from taking care of nuisance beaver to assistance in gathering biological information or instruction of youths in the safe handling of firearms.

out an antelope. The antelope was confiscated as illegal game and the guns were seized for evidence. The three men were held by the sheriff until a game warden arrived. The individuals involved were cited into Justice Court, pled guilty and paid a fine.

Wardens Get Rustlers

Last summer two game wardens were investigating a person suspected of illegally killing an elk. The only evidence they had was a small amount of fresh meat and some dried blood. This evidence was forwarded to the Fish and Game laboratory in Bozeman to be analyzed. The results proved that the meat and blood was beef and not elk. This information was turned over to the sheriff and stock inspector. The individual under investigation was confronted with this evidence and admitted he had rustled the beef.

These are two examples of the cooperation between the enforcement division of the Fish and Game Department and other enforcement agencies of the state.

Division of Responsibility

Each law enforcement agency in Montana is charged with the responsibility of enforcing laws, rules, and regulations or ordinances covering a rather specific area. The police have jurisdiction within city limits, sheriffs have jurisdiction within their counties, the highway patrol are primarily charged with enforcing traffic regulations on public highways throughout the state. The game wardens have primary jurisdiction for fish and game laws and rules and regulations as adopted by the Fish and Game Commission.

Each enforcement agency attempts to develop modern techniques and acquire modern equipment to combat violators; however, each agency has a shortage of qualified personnel to afford complete law enforcement.

In order to best serve the public, each enforcement agency is aware of the jurisdiction and the problems of other agencies. Whenever an officer notes a violation that is outside his jurisdiction, he can call the responsible agency and assist them with the apprehension. The officer can also testify in any court proceedings that may follow. In this manner each agency has qualified men to assist them to do a much better job of serving the public.

The primary responsibility of the enforcement division of the Fish and Game Department is to enforce the Fish and Game laws, rules and regulations of the Commission. However, the years have brought many changes to the Fish and Game Department. An expanding human population, seeking additional outdoor recreation, is demanding more and more public service from the agencies responsible for managing wildlife resources. A long list of new jobs and functions have been added to the department's responsibilities and many of these were relegated to the enforcement division, while assistance is given on others.

Some of the relatively new fields of enforcement activities include: field administration of firearm and hunter safety, enforcement of anti-litter laws, enforcement of boating laws, assistance in the access program, attention to game damage and bear depredation, assistance to programs for youth groups, landowner-recreationist relations, assistance in gathering game management data and assistance in gathering fish management data.

Photo—Jerry Atwell

So . . . You Want to Shoot a Moose

By DAVID R. STEVENS

Since moose again became legal game in 1945, this majestic animal has become one of our most sought after big game species. The extraordinary size and massive antlers make Montana's largest big game animal an impressive trophy. In 1966 an estimated 495 moose were taken by hunters in the state and more than half of these were taken from the ranges in the southwest.

This fall another group of sportsmen will take to the hills in search of a moose. Hunters lucky enough to get the chance will probably find that obtaining the permit is not the most difficult part of moose hunting. Through the years most hunters have found moose to be relatively elusive prey. Although 76 percent of the hunters who looked for moose in 1966 finally bagged one, many found the hunting considerably more difficult than they had anticipated. More than a handful never saw "hide nor hair" of a moose during the hunting season and swore they'd covered their entire area. However, before a hunter starts to cuss the Fish and Game Department for the lack of moose he should review where and how he went about the project. Better yet, a little investigation prior to the season may have prevented the disappointment of not "bringing home the bacon."

One thing that a prospective moose hunter should realize before putting in for a permit is that moose hunting can be hard work. This should be expected. Consider the size of the average moose and you'll get an idea of what you have to deal with. In the last 2 years 78 moose have been weighed (field dressed with head and feet attached) at the Gallatin Checking Station. The average calf weighed 193 pounds. Yearling cows weighed 351 pounds and bulls, 379 pounds on the average. Mature cows averaged 490 pounds and bulls, 537 pounds. An oddity of this study was the fact that the largest cow weighed 730 pounds and the largest bull, only 660 pounds. When faced with the problem of handling an animal of this size most hunters will generally confine their hunting efforts to places with easy access. A good logging or mining road network can be of real value when one has a moose to get out of the woods.

Probably the majority of the moose killed in Montana are within a ¼ mile of a road of one kind or another. The old story of the hunter who drives up a logging road, shoots his moose, loads it into his pickup and is back in town before breakfast, may often occur. Many moose are taken each year in this very manner. Apparently the result has been that the roadside moose in the more accessible drainages are being hunted more heavily than many moose in less accessible areas. Some moose in these out-of-the-way places may have never seen a hunter. For example, in the Gallatin during the last 8 years, more than half of the moose came from what were considered to be accessible areas which make up only 37 percent of the total moose range. In a drainage such as Hyalite Canyon, south of Bozeman, which is very popular and easily accessible by automobile, only 36 percent of the moose killed in the last few years were over 2 years old (old enough to be of trophy size). In Bear Canyon, a less accessible area, 66 percent were over 2 years old. It is reasonable to assume that the hunter has the best chance to bag a trophy moose in one of the more out-of-the-way hunting areas and have more fun doing it.

Past hunting seasons indicate that hunters prefer to shoot bulls; however, not to the extent that might be expected. During the 1966 season in the southwest, 42 percent of the permit holders shot cows and 58 percent shot bulls.

The prospective hunter must have in mind whether he wants a trophy moose and how much effort he is willing to put out, prior to applying for a certain area. Several of the areas in the state are primarily back country hunts which may require packing in. Hellroaring, Buffalo Fork and Slough Creek, all in the vicinity of the Absarokee Wilderness Area

north of Yellowstone National Park offer this kind of hunting opportunity. These back country areas may also have a few less applications for each permit, thus improving the odds of drawing a permit. For the 1967 hunting season the two larger hunting areas of the Gallatin drainage have been sub-divided into six smaller units. An attempt has been made here to equalize accessibility within each individual area to better distribute the hunters and spread the kill over a larger area. Though this will give the hunter more areas for which to apply, it will limit the hunting to a smaller area. Most of the hunting units have drainages where access is more or less difficult and still offer some choice for the hunter. The extra effort involved in getting the animal out of a difficult spot may well be worth it. At any rate investigation of the situation in the area of your choice would be a good investment of time for all prospective moose hunters.

Once the hunter gets a permit he can complete plans for the hunt, since even with the best of luck a person can legally get a moose only every 7 years, no one really gets to be an expert. Probably there are very few expert moose hunters in Montana, with the possible exception of a few experienced guides and packers. Actually most of the moose hunters each year are going after moose for the first time. Don't let being a beginner discourage you, as 76 percent of the moose hunters were successful in 1966.

Although the adult moose can be as big as a horse, often standing 6 feet high at the shoulder, he can hide in places you would never believe. Some people have compared his ability in this respect to that of the whitetailed deer—probably not a bad comparison. Often a moose will stand in the shadows and not even move while a hunter passes within only a few yards. Usually he won't spook until he's sure that he has been seen. It generally pays to hunt likely looking spots thoroughly, especially if there is fresh sign of moose.

Where do you find moose in the fall of the year? You're probably picturing a bull moose standing up to his knees in water with a lily pad hanging out of the side of his mouth or possibly in a willow bottom with only the antlers showing above the branches. Actually both situations may be quite far from the truth.

With the approach of the breeding season most adult moose apparently move out of their summer habitat which may have consisted of boggy areas, willow bottoms, and lily pads lakes. Use of some willow areas will persist, especially in places where willow is the primary habitat type, such as in the Big Hole area. In that area the moose may be found to frequent the willow bottoms the year around. In the more mountainous hunting areas such as the Gallatin or the Gravelly Mountains, moose are usually found on the high ridges and in the heads of drainages during the hunting season. Because of this upland wandering, elk hunters will often report seeing more moose than do the moose hunters. The timber types most commonly frequented by moose at this time are spruce-fir thickets and lodgepole pine stands in bottoms, on ridgetops or on north exposures. It should be noted that the foods most commonly used by moose during this period are huckleberry, subalpine fir, and willow as determined by examination of the stomach contents of hunter-killed moose. The first two plants mentioned are found almost exclusively in these upland areas. Possibly an attempt to seek refuge from the increased human activity in the lowlands could account for some of the movements, however, most likely it is related to breeding activities.

Young moose don't always follow the habits of the adults. The yearling animals, especially the bulls, may be found just about anywhere in the fall. This has considerable bearing on the higher kill of yearling moose compared to adults. It has been estimated that young bulls are 50 to 80 percent more vulnerable to hunters than moose that have been through one breeding season.

This knowledge of moose habits should improve the hunters' chance to find his quarry. It is always a good idea, however, to inquire locally about the moose situation especially if you are not familiar with the area. A local Fish and Game Warden or Biologist can be a good source of information and local residents may also help considerably. Hunting of any wild animals, even under the best circumstances, still involves a lot of looking. Moose hunting is no exception.

One word of caution concerning the field care of a downed moose. Because of their large size, moose will generally not cool properly when dressed in just the ordinary manner. Often they have been found to "sour" in the shoulder area even in the coldest weather if not split along the backbone and laid open.

When dressing your animal don't forget the biological collections! For the last few years in Montana, the Fish and Game Department has been getting considerable information from various parts of the moose saved by hunters. Generally hunters are requested to collect the lower jaw of all moose killed and to take the reproductive tract of females. Through excellent hunter cooperation these collections have provided valuable facts about moose populations.

The lower jaw is used to determine of the age of moose. Information from the jaws collected in the southwestern part of the state in 1966 will give the hunter an idea of what age animal he can expect to get. Nineteen percent of the moose killed were 5 to 7 years old, the age group in which you would generally expect the trophy size animals. Forty-three percent were 2 to 4 years old and 17 percent yearling animals. Only 10 percent of the kill were calves, and 11 percent were over 8 years. Except for the calves and yearlings, it is believed that the harvest indicates the relative ratios of these age groups in the population. A knowledge of the age structure of a group of animals will generally give some indication of the relative health of the herd. This southwestern Montana herd appears to be in relatively good shape, however, a somewhat higher proportion of yearlings could be harvested if the potential production was being fully utilized. The age structure of the statewide moose harvest is very similar to that noted in southwest Montana, except that slightly fewer calves were taken. These age structures probably vary considerably in local areas.

Collection of female reproductive tracts are useful to determine the reproductive status of the herd. The percent of the animals pregnant in the harvest is used as an indicator of the productivity of the entire herd. Moose have the

potential to reproduce at a higher rate than even elk through twinning and yearlings breeding. In the 1966 sample, yearling pregnancies in the southwest were common but twinning was only present about 2 percent of the time. These reproductive phenomena are believed to be closely related to the nutritional level of the herd.

This brings us to the old question of the condition of the range and the status of a big game herd. Reproduction may be a good indicator of the range condition of a particular herd. Of course, direct examination of the range is also essential and is the primary method used to assess range condition. As with most of the other big game species in the state, the condition of the winter range is considered the critical factor. Most of the moose ranges examined in southwest Montana are in need of improvement.

Continued study of the moose, its living requirements, and range conditions is aimed to provide good management that will ultimately make more moose available for hunting on a sustained basis.

APPLY NOW FOR SPECIAL DRAWINGS

Hunter maps and regulations covering the 1967 antelope, moose, sheep and goat seasons are now available at license agents and fish and game offices.

The Fish and Game Department is accepting applications for special season drawings, and hunters are urged to get the forms in as soon as possible. Application for any of the drawings must be made on special forms available from license agents and fish and game offices.

Application Deadline

July 15, 1967 is the deadline for special seasons applications to be in the mail. Any applications for the regular drawings which have postoffice cancellation marks later than July 15 cannot be accepted. The deadline is set as late as possible, but considerable time is required to process applications and make ready for drawings.

A public drawing for special licenses in limited areas will be held at the Data Processing Center in the Mitchell Building, Helena, on Aug. 21. The drawings will be done by business machines, and interested persons are invited to watch the proceedings.

No Prerequisites—Costs

Under the new license structure, a prerequisite license is not required of residents who apply for special licenses. Fees of special licenses, however, must accompany applications. The special license fees will be refunded to persons who are not successful in drawings.

For residents, special license fees are: antelope, $3.00; moose, $25.00; bighorn sheep, $25.00, and mountain goat, $15.00.

Nonresidents are first required to hold a $125.00 B-2 license before applying for the limited permit drawings. In addition to the cost of the B-2 license, nonresident special license costs are: antelope, $10.00; moose, $50.00; goat $30.00, and sheep, $50.00.

No Party Drawings

Beginning this year, each person must apply individually for the antelope drawings. During past years, antelope hunters have been able to apply in parties of up to six persons. The new law, which gives preference to applicants who did not have an antelope license last year, necessitates a change in method of application.

MONTANA
MONTANA FISH AND GAME DEPARTMENT

Helena, Montana 59601
Return Requested

MONTANA OUTDOORS

Published monthly by the Montana Fish and Game Dept., Mitchell Building, 125 Roberts Street, Helena, Montana 59601

Second class postage rates paid at Helena, Montana 59601

June, 1967